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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,756	12/02/2003	Joseph J. Lacey	137023-24CT	3271
26946	7590	06/27/2005	EXAMINER	
JOSEPH S. HEINO, ESQ. 111 E. KILBOURN AVENUE SUITE 1400 MILWAUKEE, WI 53202			THOMAS, COURTNEY D	
			ART UNIT	PAPER NUMBER
			2882	

DATE MAILED: 06/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/725,756

Applicant(s)

LACEY ET AL.

Examiner

Courtney Thomas

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION*****Claim Objections***

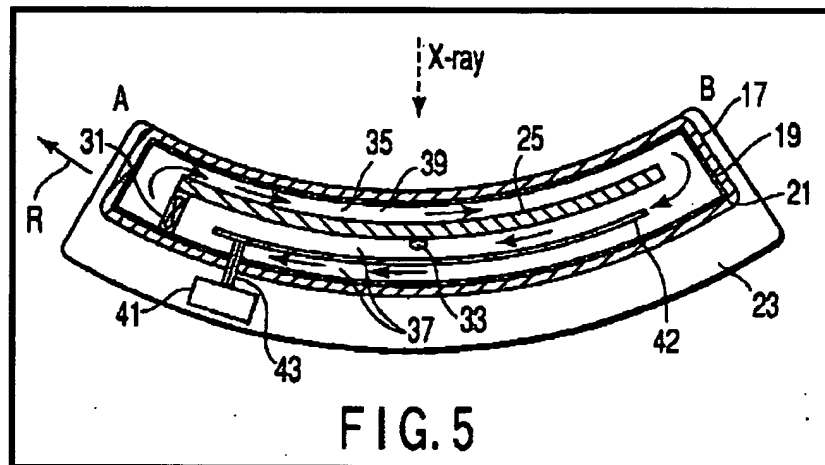
1. Claim 15 is objected to because of the following informalities:
2. Claim 15 recites: "the spreader plate." Examiner notes there is no antecedent basis for the use of this term.
3. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al. (U.S. Patent 6,411,672) in view of Chu (1999).



6. Figure 5 - X-ray CT detector (3<sup>rd</sup> embodiment) – U.S. Patent 6,411,672 to Sasaki et al.

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7. As per claims 1-14, Sasaki et al. disclose an apparatus (and method) comprising a hot air plenum (35) a heat exchanger (41, 42, 43), a cold air plenum (37) circulation fan (31), temperature measuring device (33) and temperature controller (not shown above - see column 4, lines 26-34; 63-65). Examiner correlates electronics as element (25) in Fig. 5 above. Sasaki et al. do not explicitly disclose the heat exchanger as being a thermoelectric cooler.

8. Chu teaches that thermoelectric coolers (TECs) employ the Peltier effect, similar to conventionally known heat exchange systems, however TECs offer advantages of being compact, quiet, and having no moving parts. Chu cites TECs as having the ability to control cooling by enabling a user to control the current supplied to the TEC (p. 273). Chu additionally teaches that TECs are configured with heat sinks to further dissipate component heat load, thereby contributing to a TEC's coefficient of performance (see Abstract; p. 274).

9. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Sasaki et al. such that it incorporated a thermoelectric cooler. One would have been motivated to make such a modification for the purpose of employing a compact, quiet, cooling element with no moving parts and controllable via application of current as suggested by Chu (see pp. 270-274; 278).

### ***Claim Rejections - 35 USC § 102***

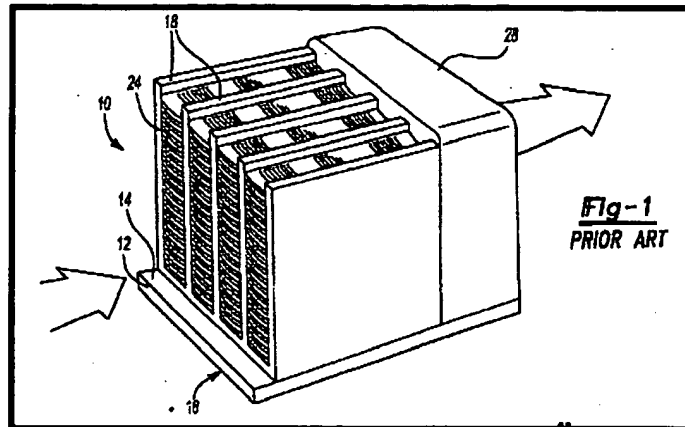
10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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11. Claim 26 is rejected under 35 U.S.C. 102(e) as being anticipated by Gawve (U.S. Patent 6,668,910).



12.

Figure 1 - Prior Art Heat Sink - U.S. Patent 6,668,910 to Gawve

13. As per claim 26, Gawve, discloses a method comprising the step of providing a heat sink; moving heat away from electronics to the heat sink and providing a cooling fan (28) to facilitate heat dissipation over the heat sink (see Abstract; column 1, lines 5-10; 23-41; 65-67; column 2, line 1).

### ***Double Patenting***

14. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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15. Claims 15-25 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-49 of **copending Application No. 10/609,755** in view of **U.S. Patent 6,668,910**. Although the conflicting claims are not identical, they are not patentably distinct from each other because copending Application No. 10/609,755 claims an apparatus comprising a plurality of heat pipes in thermal contact with electronics; the heat pipes extending outwardly from a spreader plate and a heat sink attached to the heat pipes. Copending Application No. 10/609,755 does not explicitly claim a blower cage containing the spreader plate and a circulation fan.

16. U.S. Patent 6,668,910 discloses a heat sink comprising a blower cage (18) containing a spreader plate (12) and a fan (28), configured to blow air across the heat sink (see Abstract; column 1, lines 5-10; 23-41; 65-67; column 2, line 1).

17. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify copending Application No. 10/609,755 such that it incorporated a blower cage and a circulation fan. One would have been motivated to make such a modification for the purpose of augmenting heat dissipation of device components by way of contained forced air convection as suggested in U.S. Patent 6,668,910 (Abstract; column 1, lines 5-10; 23-41; 65-67; column 2, line 1)

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Conclusion***

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:


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19. **U.S. Patent Application Publication 2004/0195676** to Quarre discloses a cooling system for detector electronics comprising a thermoelectric cooler (TEC 130), heat sink (105) and fans (120).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Courtney Thomas whose telephone number is (571) 272-2496. The examiner can normally be reached on M - F (9 am - 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272 2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Courtney Thomas  
Examiner  
Art Unit 2882